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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Number: 6,628,037
Issued: September 30, 2003
Name of Patentee: Kinya Matsuzawa
Serial No.: 10/002,033
Filing Date: November 15, 2001
Title of Invention: Power Generator, Electronic Device Using the Same, Method of Setting Plate Thickness in a Magnetic Circuit in Electronically Controlled Timepiece and Power Generator

Certificate
JUL 11 2005
of Correction

CERTIFICATE OF MAILING

I hereby certify that this correspondence, and the documents attached hereto, are being deposited with the United States Postal Service as "First Class" mail with sufficient postage in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this date.

Date: June 30, 2005


Ann F. George

**REQUEST FOR ADDITIONAL CERTIFICATE OF CORRECTION OF
PATENT
FOR PTO MISTAKE (37 CFR §1.322(a))**

Attention Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

It is noted that errors appear in this patent of a clerical, typographical or minor nature or character, as more fully described below, due to a mistake by the Patent and Trademark Office. This mistake was not corrected by the Certificate of Correction dated April 19, 2005.

Attached hereto in duplicate is Form PTO-1050 with at least one copy being suitable for printing.

The exact page and line number where the error occurs in the patent are:

Column 22, after line 35, please insert

--where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, ρ ($\Omega \cdot m$) represents resistivity, f (Hz) represents frequency and B_m (T) represents maximum amplitude magnetic flux density of the soft magnetic material; and

JUL 18 2005

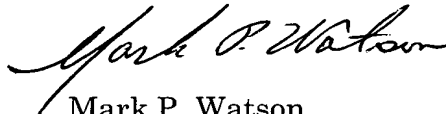
REQUEST FOR CERTIFICATE OF CORRECTION OF
PATENT FOR PTO MISTAKE (37 CFR §1.322(a))

a processor for driving a time display by the electric energy generated by the power generator.--

Patent Claim 17 corresponds to application Claim 15 (Exhibit A). Please see the Preliminary Amendment received by the Patent Office on June 2, 2002, especially pages 2 and 3 (pages 1-3 included as Exhibit B).

Patentee's undersigned attorney may be reached at the telephone number listed below. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



Mark P. Watson
Registration No. 31,448

Please address all correspondence to:
Epson Research and Development, Inc.
150 River Oaks Parkway, Suite 225
San Jose, CA 95134
Customer No. 20178
Phone: (408) 952-6124
Facsimile: (408) 954-9058

Date: June 30, 2005

JUL 18 2005

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.: 6,628,037
DATED: September 30, 2003
INVENTOR(S): Kinya Matsuzawa

It is certified that an error appears in the above identified patent and that said Letters Patent is hereby corrected as shown below:

Column 22, after line 35, please insert

--where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, ρ ($\Omega \cdot m$) represents resistivity, f (Hz) represents frequency and B_m (T) represents maximum amplitude magnetic flux density of the soft magnetic material; and

a processor for driving a time display by the electric energy generated by the power generator.--

MAILING ADDRESS OF SENDER:

PATENT NO. 6,628,037

Epson Research and Development, Inc.
Intellectual Property Department
150 River Oaks Parkway, Suite 225
San Jose, CA 95134
Customer No. 20178

FORM PTO 1050

Request for Additional Certificate of Correction PTO Mistak1.doc
Customer No. 20178

JUL 18 2005

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.: 6,628,037
DATED: September 30, 2003
INVENTOR(S): Kinya Matsuzawa

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FORM PTO 1050

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Customer No. 20178

JUL 18 2005

Issue Classification 	Application No.	Applicant(s)	
	10/002,033	MATSUZAWA, KINYA	
	Examiner	Art Unit	
	Burton S. Mullins	2834	

ISSUE CLASSIFICATION									
ORIGINAL					CROSS REFERENCE(S)				
CLASS		SUBCLASS			CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)			
310		254			310	216			
INTERNATIONAL CLASSIFICATION									
H	0	2	K	001/12					
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				/					
n/a					 Burton Mullins 18 March 2003				
(Assistant Examiner)					(Primary Examiner)				
					Total Claims Allowed: 28 O.G. Print Claim(s) 1 O.G. Print Fig 2				

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant										<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47	
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U.S. Patent and Trademark Office

EXHIBIT

of Paper No. 0303

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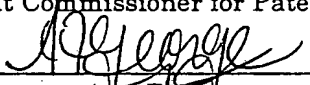
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Kinya Matsuzawa Group Art Unit: 2834
Serial No.: 10/002,033 Examiner: Not Yet Assigned
Filed: November 15, 2001
Title: Power Generator, Electronic Device Using The Same, Method Of
Setting Plate Thickness In A Magnetic Circuit In Electronically
Controlled Timepiece And Power Generator

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231 on this date.

Date: May 13, 2002


Ann F. George

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Preliminary to examination please amend the above identified application as follows:

IN THE CLAIMS

Please substitute the following clean amended claims 12, 14, 15 and 23 for the pending claims with the same number. Marked-up versions of the amended claims follow the "Remarks" section of this amendment.

12. (Amended) The power generator according to claim 1, wherein at least one of the stator and the magnetic core is made of a single layer or a lamination of the soft magnetic material of the plate thickness d.

14. (Amended) An electronic device, comprising:

a power generator comprising:

a rotor having a permanent magnet;

EXHIBIT

B

a stator and a magnetic core of soft magnetic material constituting a magnetic circuit; and

a coil wound around the magnetic core,

wherein the plate thickness d (m) of the soft magnetic material constituting at least one of the stator and the magnetic core is set at a value represented by the following formula of

$$d = \sqrt{\frac{k_h}{k_e}} \rho \cdot f^{-0.375} B_m^{-0.175} \quad (1)$$

where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, ρ ($\Omega \cdot m$) represents resistivity, f (Hz) represents frequency and B_m (T) represents maximum amplitude magnetic flux density of the soft magnetic material; and

a processor actuated by the electric energy generated by the power generator.

15. (Amended) An electronically controlled timepiece, comprising:

a power generator comprising:

a rotor having a permanent magnet;

a stator and a magnetic core of soft magnetic material constituting a magnetic circuit; and

a coil wound around the magnetic core,

wherein the plate thickness d (m) of the soft magnetic material constituting at least one of the stator and the magnetic core is set at a value represented by the following formula of

$$d = \sqrt{\frac{k_h}{k_e}} \rho \cdot f^{-0.375} B_m^{-0.175} \quad (1)$$

* where k_h represents hysteresis loss coefficient, k_e represents eddy-current loss coefficient, $\rho(\Omega m)$ represents resistivity, f (Hz) represents frequency and B_m (T) represents maximum amplitude magnetic flux density of the soft magnetic material; and

a processor for driving a time display by the electric energy generated by the power generator.

23. (Amended) The method of setting plate thickness in a magnetic circuit in a power generator according to claim 21,

wherein the soft magnetic material constituting at least one of the stator and the magnetic core has a lamination structure and the respective layers forming the lamination structure have a minimum thickness of not less than 0.05mm.

Please add the following new claims 24 to 28:

24. (New) The power generator according to claim 6, wherein at least one of the stator and the magnetic core is made of a single layer or a lamination of the soft magnetic material of the plate thickness d .

25. (New) The power generator according to claim 24, wherein the soft magnetic material constituting at least one of the stator and the magnetic core has a lamination structure, and the respective layers forming the lamination structure have a minimum thickness of not less than 0.05mm.

26. (New) An electronic device, comprising:

a power generator comprising:

a rotor having a permanent magnet;

a stator and a magnetic core of soft magnetic material constituting a magnetic circuit; and

a coil wound around the magnetic core,

wherein the plate thickness d (m) of the soft magnetic material constituting at least one of the stator and the magnetic core is set within a plate